Claims

[c1]   What is claimed is:

1. A method of compressing a sequence of video frames, video frames comprising blocks of picture information; types of video frames being: an I-frame having blocks encoded referencing intra-picture information only, a P-frame having blocks encoded referencing intra-picture or inter-picture information, and a B-frame having blocks encoded referencing inter-picture information only; the method comprising:

(a) providing a predetermined sequence of video frames, the predetermined sequence beginning with an I-frame and ending with a P-frame;

(b) sequentially encoding frames by encoding blocks of each frame according to the frame type;

(c) determining a number of intra-picture encoded blocks in a P-frame, and determining a scene change as occurring when the number of intra-picture encoded blocks is greater than a predetermined number; and

(d) when detecting a scene change in a P-frame, redefining that P-frame as an I-frame and redefining B-frames of the sequence as P-frames, and re-encoding redefined frames.

[c2]   2. The method of claim 1 wherein steps (b), (c), and (d) are repeated for all new P-frames generated in a previous execution of step (d).

[c3]   3. The method of claim 1 wherein the predetermined sequence consists of: an I-frame, a subsequent series of B-frames, and a final P-frame.

[c4]   4. The method of claim 1 wherein in step (c), the number of intra-picture encoded blocks is maintained and compared to the predetermined number while encoding the P-frame.

[c5]   5. The method of claim 1 wherein in step (d) all B-frames of the sequence are redefined as P-frames.

[c6]   6. The method of claim 1 wherein the sequence of video frames and the encoding of the video frames are according to MPEG-4.